

### REMARKS

In the Office Action, Claims 10 to 13 were rejected under 35 U.S.C. § 112, second paragraph, for an alleged lack of antecedence for “said stored encryption key” of the last element of Claim 10. The rejection is respectfully traversed.

Applicant wishes to point out that the second element of the claim recites that an external encryption key is stored in a storage means, thereby establishing the antecedent basis for “said stored encryption key”. In addition, the third element of the claim recites that digital information is encrypted using “said encryption key stored in the storage means”, thereby providing further antecedence for “said stored encryption key”. Moreover, it is not understood how changing “said” to “the” as suggested in the Office Action would change the claim so as to provide additional antecedence for “said stored encryption key” when “said” and “the” are interchangeable in the context of patent claiming under U.S. practice. (See MPEP § 2173.05(e) where “said lever” or “the lever” are used interchangeably.) Thus, withdrawal of the § 112 rejection is respectfully requested.

Claims 1 to 3, 6 and 10 to 14 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,619,025 (Hickman) in view of U.S. Patent No. 6,192,473 (Ryan), Claims 7, 18 to 20 and 22 were rejected under § 103(a) over Hickman in view of Ryan and further in view of Schneier (Applied Cryptography), Claims 1 to 3, 6, and 10 to 14 were rejected under § 103(a) over U.S. Patent No. 5,534,857 (Laing) in view of U.S. Patent No. 6,192,473 (Ryan), and Claims 7, 18 to 20 and 22 were rejected under § 103(a) over Laing in view of Ryan and further in view of Schneier (Applied Cryptography). The rejections

are respectfully traversed and the Examiner is requested to reconsider and withdraw the rejections in light of the following comments.

The Office Action more or less admits that both Hickman and Laing fail to erase their encryption key before transmitting encrypted information. However, the Office Action now cites Ryan as allegedly making up for this deficiency.

Initially, Applicant notes that the Office Action seems to be focusing on the encryption key being *immediately* erased after being used to encrypt the data in step S5 of Figure 3. However, the Office Action's position seems to be somewhat misplaced and Applicant believes that the arguments presented in the October 28, 2003 Reply To New Matter Issue Raised In Advisory Action may have been misunderstood.

In this regard, Applicant pointed out in that Reply that the erasing step (S6) immediately follows the encryption step (S5) in Figure 3 such that there is no outputting step between them. Specifically, Applicant stated:

One object of the invention described in the specification is to ensure that the encryption key is erased as soon as possible after encrypting the digital information so as to prevent others from illegally obtaining the encryption key from the image output apparatus 100. To achieve this object, the steps of Figure 3 are to be performed in the precise order described in the specification (i.e., encryption using the key (step S5) and then erasing the key after the encryption (step S6)). Accordingly, since Figure 3 explicitly erases the key immediately after the information is encrypted, and there simply is no outputting step between steps S5 and S6, it is readily apparent that the key is erased before the encrypted information is output. Moreover, those skilled in the art would readily understand that the encrypted digital information can be output at any time after the encryption has been performed, including before the erasing step, but in light of the lack of an explicit outputting step between steps S5 and S6, it is understood that the encrypted digital information is to be output after step S6 (i.e., after the key is erased).

Thus, the gist of the foregoing argument was that Figure 3 provided support for erasing the key after encryption and before outputting the encrypted data because there simply is no other step between steps S5 and S6. However, the Office Action appears to eliminate some of the important parts of Applicant's argument by only quoting portions of the above-arguments and therefore, appears to interpret the foregoing arguments as meaning that the key is *immediately* erased after the encryption, rather than that step S6 immediately follows step S5 with no intermediate step therebetween. In the context of the invention however, it is not necessary that the key be immediately erased after the encryption, so long as the key is erased sufficiently close in proximity to completion of the encryption *and* before outputting of the encrypted data.

Nonetheless, the Office Action takes the position that Ryan's column 4, lines 29-35 allegedly discloses erasing the key immediately after being used, which is alleged as reading on erasing the key after encryption and before outputting of encrypted data. However, Applicant notes that this portion of Ryan is merely seen to disclose that, after performing a requested function, an unencrypted form of a  $K_{KMS}$  key is erased, with an encrypted form of the  $K_{KMS}$  key being maintained in a database. Thus, as Applicant understands Ryan, where the requested function results in encrypting and outputting encrypted data, the key would be erased after completing both operations that constitute the function, namely encrypting the data and then outputting the data. Therefore, Ryan is not believed to erase the key before outputting of the encrypted data, but rather, after the data is output. Moreover, only the unencrypted form of the key is erased and the encrypted form of the key is maintained in the database. Therefore, Applicant believes that Ryan is

different from the presently claimed invention and that any combination of Hickman or Laing, together with Ryan and/or Schneier, would not have rendered the present invention obvious.

In view of the foregoing deficiencies of the applied art, all of Claims 1 to 3, 6, 7, 10 to 14, 18 to 20 and 22 are believed to be allowable.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

  
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